B — CONCEPTUAL PROFILE VIEW
POOL

Labels: AVE. WATER SURFACE, BED SURFACE, SUBSURFACE, C, 40 TO 60 FT. TYPICAL, B, 10 FT. TYP., A, RIFFLE, POOL TAILOUT, POOL CENTER, POOL SURFACE, 0.5 TO 1.0 FT GRAVEL DEPTH, 1.0 FT GRAVEL DEPTH

NOTE:
SOME POOLS MAY REMAIN AT MAXIMUM DEPTH FOR 30 FT. ON BROAD MEANDERS.
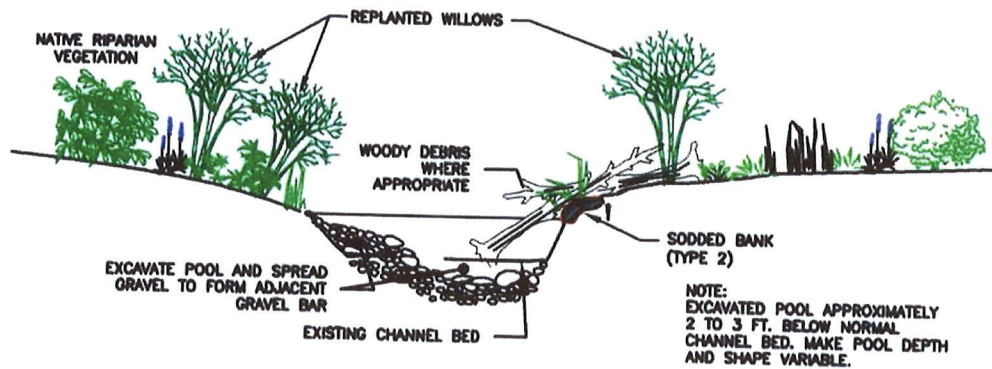
A — CONCEPTUAL SECTION VIEW
POOL

Labels: REPLANTED WILLOWS, NATIVE RIPARIAN VEGETATION, WOODY DEBRIS WHERE APPROPRIATE, SODDED BANK (TYPE 2), EXCAVATE POOL AND SPREAD GRAVEL TO FORM ADJACENT GRAVEL BAR, EXISTING CHANNEL BED

NOTE:
EXCAVATED POOL APPROXIMATELY 2 TO 3 FT. BELOW NORMAL CHANNEL BED. MAKE POOL DEPTH AND SHAPE VARIABLE.
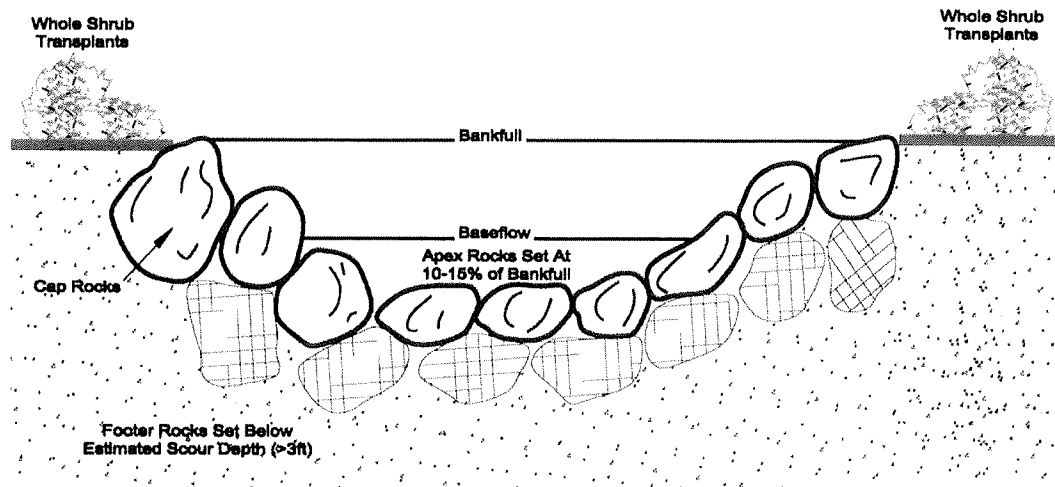
Typical cross-section drawings are shown here for Scour-Lateral-Meander pool restoration in Cottonwood Creek. These drawings provide a format from which we can construct a variety of pool habitats.

Flow

Floodplain Grade Control
Buried At Bankfull (log sill)

20°-30°

Structure Keyed In
To Bankfull Elevation

Apex Rocks Set At
10-15% Of Bankfull

Lateral Pool

Lateral Pool

Scour Pool

Vane Spans 1/2-2/3 Bankfull Channel Width
Slope Structure 7-12% From Bankfull To Apex
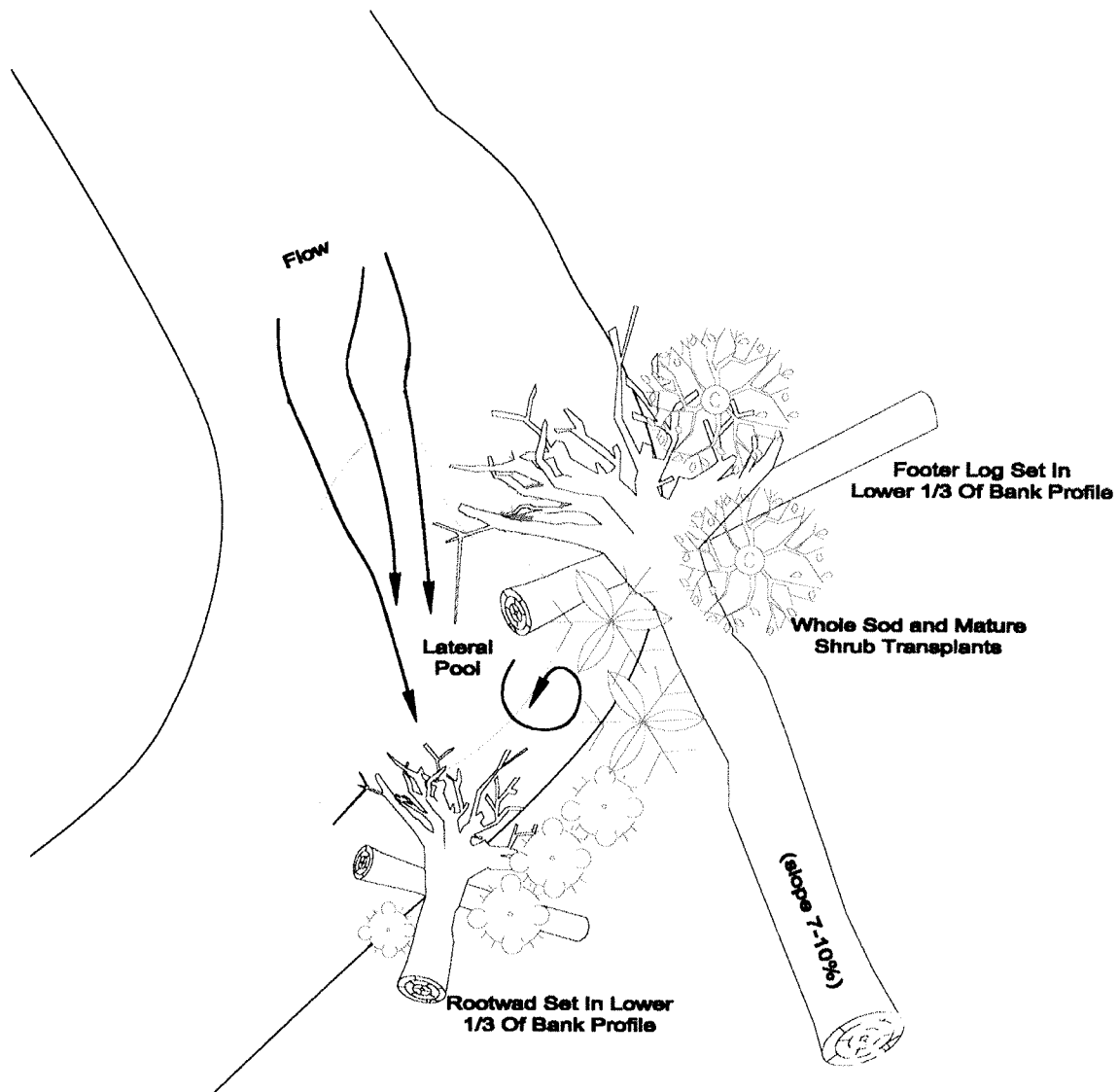Vane Spacing Based On Bankfull Width and Curvature Radius
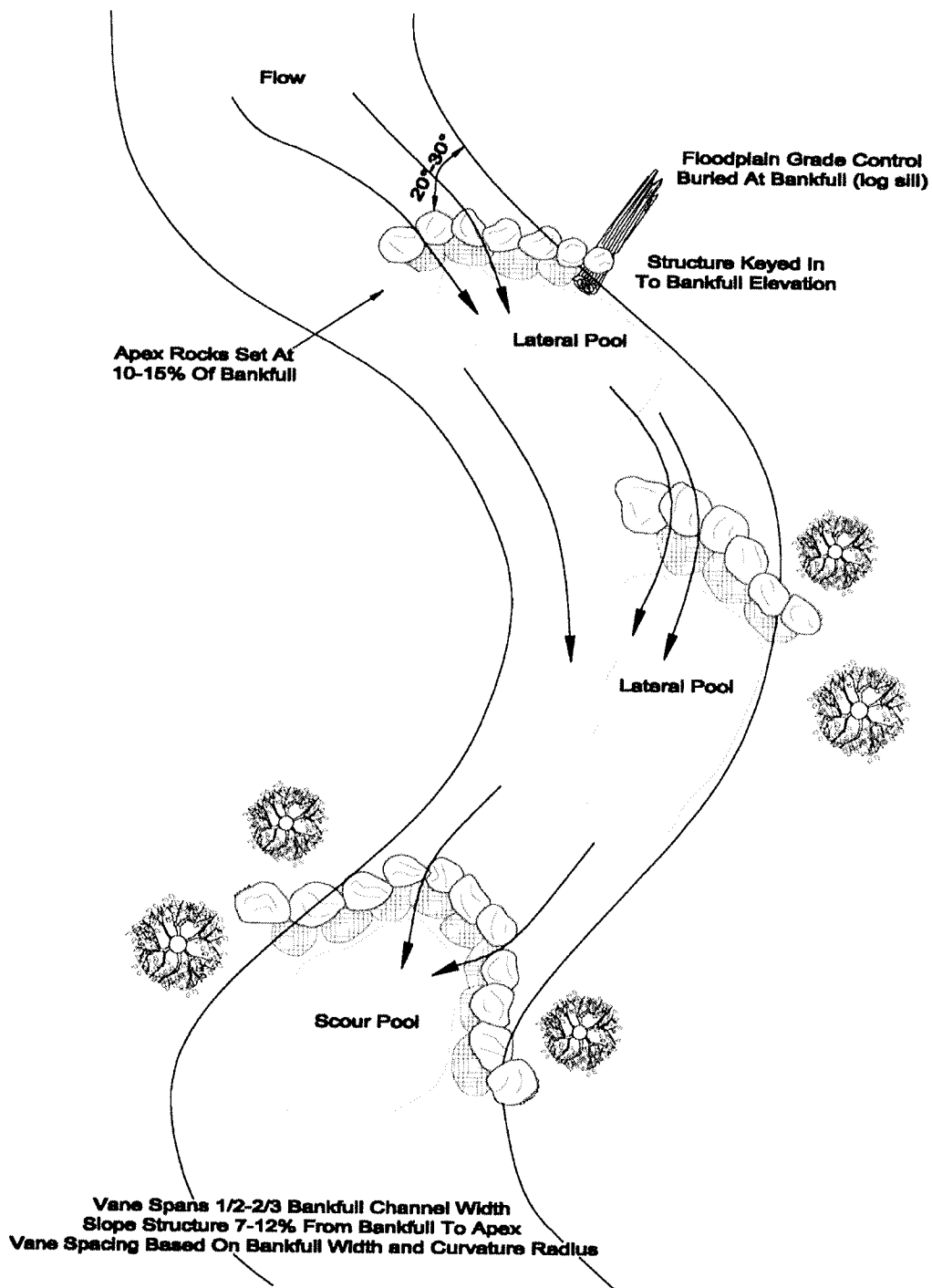
This plan view diagram is of a series of vanes and a V-weir structure that will be used to protect streambanks on Cottonwood Creek, as well as provide fisheries habitat. These sequential pools will provide spawning habitat and juvenile fish cover. Small woody debris will be placed along the edge of the pools for additional habitat.

Flow

Whole Shrub
Transplant

20°-30°

Bankfull
Elevation

Scour Pool
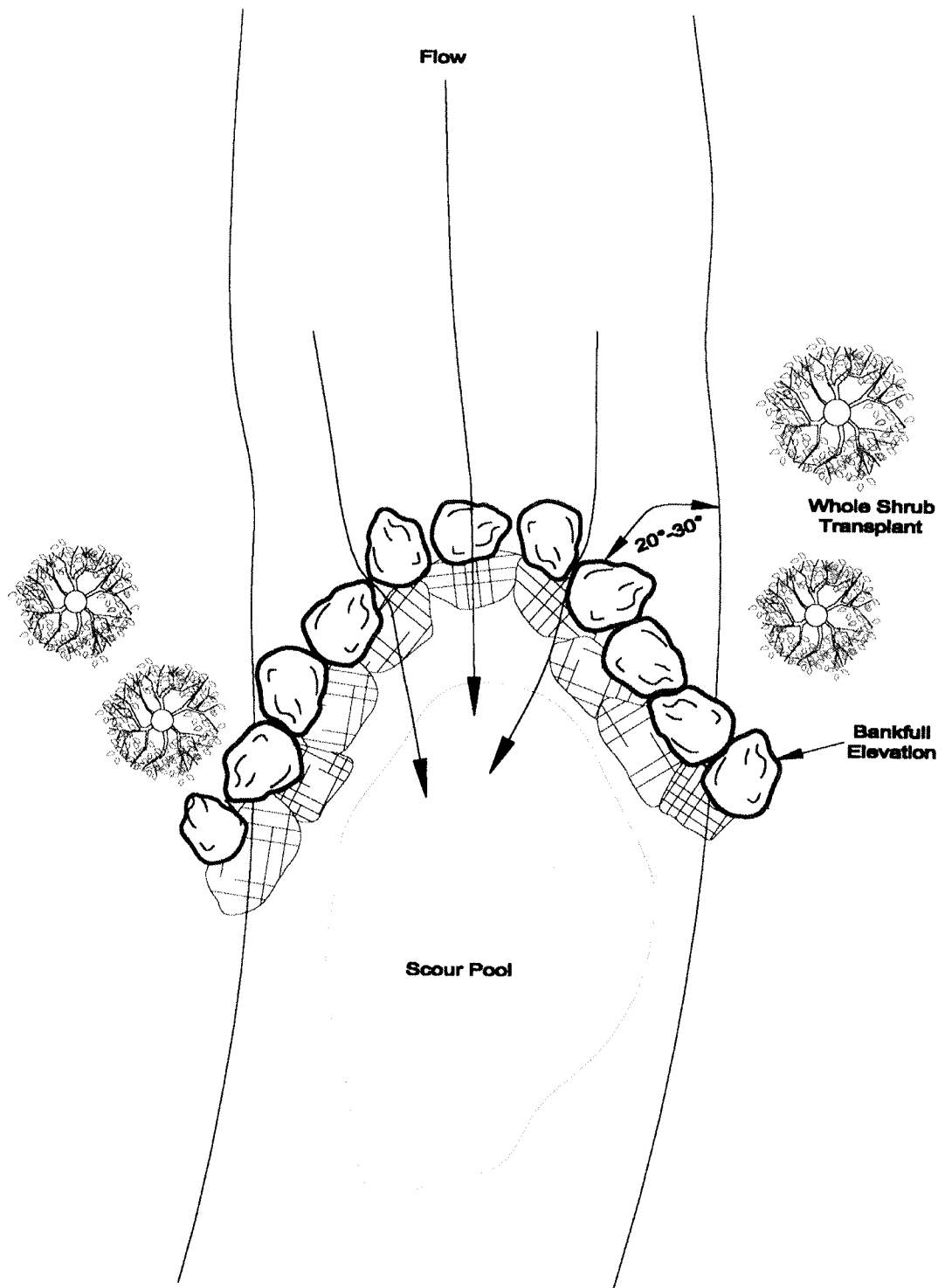
Setting the rock V-weirs must be done at the appropriate angles to insure adequate scour. This diagram indicates the pattern for the V-weirs. The materials for these structures will be sized so that their diameter is at least 2 times the bankfull depth across their b-axis.

Whole Shrub Transplants

Whole Shrub Transplants

Bankfull

Baseflow

Apex Rocks Set At
10-15% of Bankfull

Cap Rocks

Footer Rocks Set Below
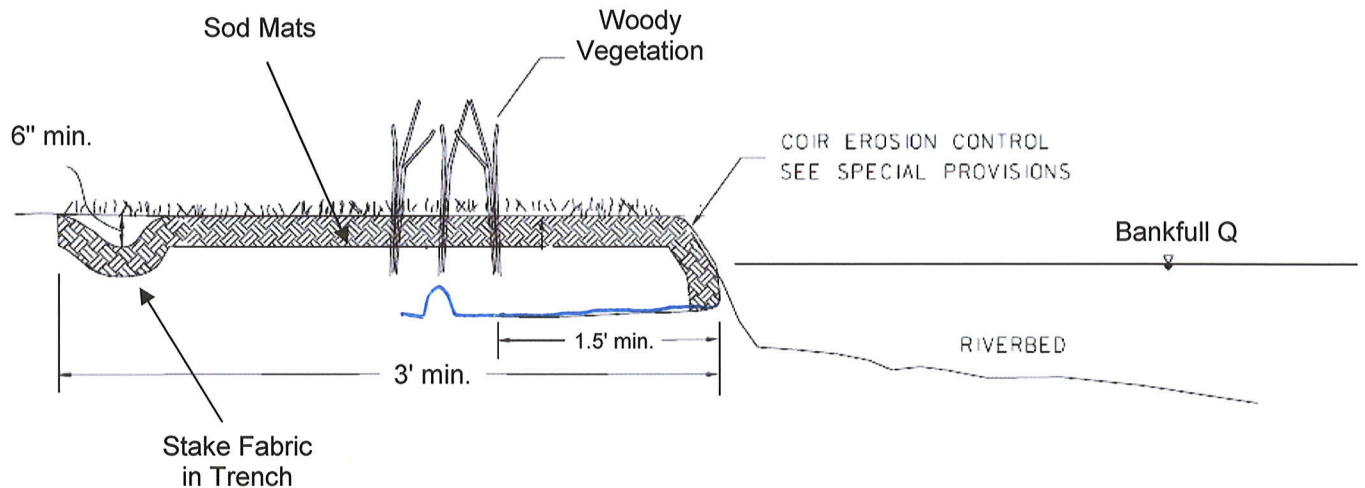Estimated Scour Depth (>3ft)

The rock V-weirs must be set at the appropriate elevation to insure adequate scour and sediment transport. This diagram indicates the depths for the V-weirs. The V-weir materials will be at least 2 times the bankfull depth across the rock's b-axis.

Flow

Lateral
Pool

Footer Log Set In
Lower 1/3 Of Bank Profile

Whole Sod and Mature
Shrub Transplants

(slope 7-10%)

Rootwad Set In Lower
1/3 Of Bank Profile

Effective Bank Protection = 2-2.5 x Vane Length
(per structure)

Engineered log jams contain numerous smaller stems placed in between a larger base structure. Pictured above is the base structure and the numerous smaller stems will be added to increase complexity and near bank roughness.

Sod Mats

Woody Vegetation

6" min.

COIR EROSION CONTROL
SEE SPECIAL PROVISIONS

Bankfull Q

1.5' min.

RIVERBED

3' min.

Stake Fabric
in Trench

COIR EROSION CONTROL

1. Sub-excavate banks
2. Lay lower fabric a minimum 1.5' into bank
3. Backfill with native material and sod mats
4. Wrap fabric over bank and sod mats
5. Extend fabric minimum 3.0' from bank's edge
6. Stake fabric in trench to secure and bury
7. Install woody vegetation to specs

The inset lower banks (inset floodplains) will be protected either with sod mats or with coir fabric as pictured above. The willow sprigs laid at water's edge will extend at least 3 feet into the streambank with no more than 1-foot of the tips protruding into the active channel. These sprigs will be set below the bankfull to level.